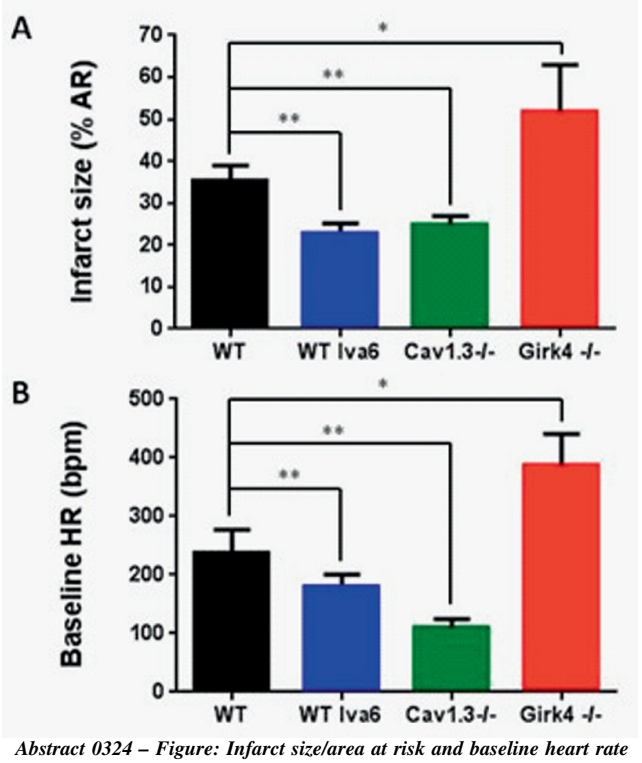
and mortality. However, reperfusion presents also deleterious effects such as ischemia-reperfusion (IR) injury due to irreversible apoptotic death of cardiomyocytes. Heart rate (HR) is also a determinant of cardiac pathology. Most ischemic episodes are triggered by an increase in HR that induces an imbalance between myocardial oxygen delivery and consumption. The BEAUTIFUL clinical trial (Fox *et al.* the Lancet, 2008) has demonstrated that moderate HR reduction diminishes the frequency of episodes MI in patients with stable coronary artery disease and increased HR at rest. The HCN-mediated $I_f$ current and the Cav1.3-mediated L-type $Ca^{2+}$ currents play important roles in the generation of automaticity and HR, therefore they are interesting targets for selective control of HR and cardioprotection (reduced IS) during acute MI. The aim of our study was to investigate if targeting Cav1.3 channels could be an efficient strategy to reduce IS. Cav1.3 –/– mice was used as a genetic model of Cav1.3 inhibition because of the lack of selective blocker. Ivabradine (Iva), the selective f-channel blocker, was used for pure HR reduction as a positive control. Results show that selective HR decrease (40%) in an *in vivo* mouse model of acute MI is associated with reduced IR injury. Ivabradine administration 30 minutes before ischemia significantly reduced IS (35%). Cav1.3 –/– mice presented reduced IS compared to WT mice (30%). In addition, preliminary results show that Girk4 –/– mice, a genetic model of moderate sinus node tachycardia (10%) displayed increased IS compared to control mice (45%). Taken together these results suggest a direct relationship between HR and IR injury and that inhibition of Cav1.3 channels constitutes a promising strategy to reduce both HR and IS.




***Abstract 0324 – Figure: Infarct size/area at risk and baseline heart rate***

## 0432

### Impact of admission hyperglycemia on one-year mortality in non-diabetic patients admitted for rescue PCI: data from the "Observatoire des infarctus de Côte d'Or"

Aurélie Gudjoncik (1), Luc Lorgis (1), Carole Richard (1), Jack Ravisy (2), Philippe Buffet (1), Philippe Brunel (2), Luc Janin-Manificat (3), Jean-Claude Beer (1), Damien Brunet (2), Séverine Claes (4), Marianne Zeller (4), Yves Cottin (1)
*(1) CHU Dijon, Bocage Central, Cardiologie 1, Dijon, France – (2) Clinique de Fontaine, Cardiologie, Fontaine Les Dijon, France – (3) Centre Hospitalier, Cardiologie, Beaune, France – (4) Inserm U866, Université de Bourgogne, Laboratoire de physiopathologie et pharmacologie cardio-métaboliques, Dijon, France*

**Background:** Rescue percutaneous coronary intervention (PCI) is associated with improved clinical outcomes for ST-segment myocardial infarction (STEMI) patients after failed fibrinolysis therapy. Hyperglycemia on admission has been shown to be a powerful predictor of mortality after acute myocardial infarction, particularly in non-diabetic patients. The aim of our study was to assess the predictive value of admission glucose levels on long-term mortality in patients with rescue PCI.

**Patients and Methods:** From the "Observatoire des infarctus de Côte d'Or" (RICO) survey, 510 consecutive non-diabetic STEMI patients admitted to the intensive care unit for rescue PCI after failed fibrinolysis therapy were included in the study. We analyzed one-year cardiovascular mortality in these patients. Rescue PCI was deemed necessary in patients with ST-segment resolution <50% 90 minutes after lysis, or a thrombolysis in myocardial infarction (TIMI) perfusion grade in the infarct-related artery <3 at the time of angiography in patients with persisting equivocal symptoms. Patients were classified according to admission glycemia: <11 mmol/L (group I, n=452) and ≥11 mmol/L (group II, n=58).

**Results:** One-year cardiovascular (CV) mortality was 6% in group I and 29% in group II (p<0.001). Patients with hyperglycemia on admission were more likely to develop cardiogenic shock (43% vs. 10%, p<0.001) and to have higher peak CPK (4052(2465-6283) vs. 2667 (1303-4865), p=0.007), reflecting a bigger infarct size than the others, although the revascularization results were similar. By multivariate analysis, glycemia on admission ≥11 mmol/L (odds ratio 6.380, 95% confidence interval 2.075 to 19.617, p=0.001) and GRACE risk score (OR: 1.027, 95% CI 1.012-1.042, p<0,001) were independently associated with 1-year CV mortality.

**Conclusion:** In non-diabetic patients undergoing rescue PCI after failed fibrinolysis, glycemia on admission is a predictive factor for long-term CV survival. This study suggests that evaluating early glycemic control may be useful in the setting of rescue PCI.

## 0423

### Trans-radial approach is associated with reduced mortality as compared to trans-femoral approach in patients admitted for PCI for ischemic-related cardiogenic shock

Adrien Lemaitre, Vincent Roule, Thérèse Lognone, Remi Sabatier, Paul-Ursmar Milliez, Gilles Grollier, Farzin Beygui
*CHU Caen, Cardiologie, Caen, France*

**Background:** Myocardial infarction (MI)-related cardiogenic shock (CS) remains associated with major mortality rates. Trans-radial approach for percutaneous coronary intervention (PCI) has been associated with better outcome in the setting of MI but patients with CS were excluded.

**Objectives:** To assess the outcome of MI-related CS in patients treated by trans-radial versus trans-femoral approach.

**Methods:** A prospective cohort of 101 consecutive patients admitted for PCI for MI-related CS were treated by trans-radial (n=74) or trans-femoral (n=27) approach. Cox proportional hazards models adjusted on age, gender, GRACE score -CRUSADE score for bleeding-, and need for intra-aortic balloon pump were used to assess mortality, death/MI/Stroke and bleeding between the two groups.